



HIGHRISE FIRES

The following pictures are from a recent highrise fire in the Bronx, New York. The fire originated in the bedroom of a residential highrise unit on the 24th floor then erupted into a fast moving three-alarm fire involving two floors, multiple companies, maydays with missing firefighters and a number of priority messages. High wind conditions and auto-exposure were the primary factors that changed the intensity of this basic room and contents fire into a three-alarm blaze.

Highrise fires can be extremely challenging for fire suppression crews for a number of reasons; some include: ventilation, restricted water supply capabilities, limited aerial apparatus access to upper floors, communications, building construction and design, restricted use of elevators, and the civilian life safety factor.



The windows fail on the windward side of the building. Note the fire in the window but NO SMOKE OR FIRE coming out of the window. This indicates two things.

- 1) An open hallway door (meaning the fire has some place else to vent other than out the window)**
- 2) A severe wind condition is keeping the fire in the building**



At this point, companies are backing out to the public hallway. Control of the fire door was maintained (VERY IMPORTANT) and kept closed. A 2nd line (2 1/2") was requested to be stretched next to the 1st line so they could be advanced side-by-side.

Also, the fire was extending via auto-exposure into the 25th floor as companies were calling for lines. Eventually companies were driven out of that apartment and into the public hallway. Several maydays were transmitted as well as several urgent messages.

What can we do ***before the fire*** to increase our operational effectiveness? Preplanning will help to ensure success at these structures by identifying problems ahead of time before the actual incident.

1. Ensure that Siamese connections are not obstructed and that they are in operable condition.
2. Confer with building management to ensure that Knox box keys are updated and tagged. Remember:
 - Main entrance green tag
 - Fire control room blue tag
 - Elevator control red tag (test fireman's service if applicable)
 - Boiler/HVAC control room yellow tag
 - Other keys black-labeled tag

3. Check the stand pipe risers for PRV's (pressure regulating or reducing valves); the presences of these valves can significantly reduce water flow through stand pipe discharges if they are improperly set. Generally, they can be found in some of our taller buildings in Montgomery County. They are used to reduce high pressures at the base of a stand pipe riser generated by fire pumps supplying upper floors. Some valves are designed to be removable where others are installed in-line with the piping and may be overridden or field adjusted. There are those that are not adjustable at all. Either configuration can hinder flows from automatic fog nozzles requiring 100 psi discharge pressures (***consider an alternate 2"1/2 stand pipe pack with a smoothbore nozzle for confirmed working fires or use the slug tip of a break away nozzle or low pressure fog nozzle in your existing stand pipe pack***). If found in existing buildings, contact Code Enforcement immediately.



This stem
can be field
adjusted

4. When visiting buildings with sprinkler and standpipe systems, it is appropriate to request to see the most recent Inspection and Testing Report. If none is available, contact Fire Code Enforcement.

5. Test aerial access to the building to establish “scrub zone” and reach of the ladder or tower. Most 100 ft. aerials will only have reach to the 7th floor of most high-rise buildings based on the optimum distance from the building.

6. Identify the stairwell having roof access; during emergency operations, this stairwell will be used for ventilation. Remember, the fire attack and civilian evacuation should be made from separate stairwells, not the ventilation stairwell.

7. Become familiar with the location of the fire control room, annunciator panel, and any other relevant building systems and their function.



Heavy smoke and fire are now venting out of the 24th & 25th floors. These shots were taken 10 minutes after the previous shots. NOTE THAT ON THE RIGHT SET OF WINDOWS, the fire is being driven into the apartment by the wind. There is no smoke coming out of the right windows at all.



High rise fires will always attempt to defy our operational readiness. Strong pre-planning and training in addition to firm tactical decision-making will aid our companies when it comes time to do battle.

Pictures courtesy of B/C Scott Graham, Lt. David Pazos and Pete Piringer

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“DEDICATION TO EDUCATION”

